

Short title: Rotary device for removing weeds from joints in
a paved area

5

The invention relates to a rotary device for removing weeds from joints in a paved area in accordance with the preamble of claim 1.

10 The professional removal of weeds from joints of a paved area involves the use of heavy steerable machines which are provided with one or more rotating cup-like steel brushes with vertical axes of rotation. On account of their size and cost, machines of this type are not suitable for home use.

15

Individuals generally remove weeds from joints in paved areas around the house and in the garden manually, using a scraper or blade, optionally attached to a shank with a handle. This is heavy, time-consuming and exhausting work, and the results often
20 leave something to be desired. Therefore, use is often also made of weedkillers, which is environmentally unfriendly.

A device in accordance with the preamble of claim 1 is known from DE-U 90 02 359, which shows a weed-removing device having a
25 shank provided with a handle and, at its bottom end, a transverse rod which at one end is provided with a support wheel and at the other end is provided with a wire brush. By means of a distributor belt, the wire brush is driven by an electric motor located a certain distance above the transverse rod.

30

A drawback of this known weed-removing device is that it is relatively difficult to handle. In particular its lateral stability leaves something to be desired, the device having the tendency to veer sideways, making it difficult to correctly
35 align the wire brush above the joint which is to be cleared. Furthermore, a relatively high compressive force has to be exerted on the shank in order for the weeds to be successfully removed from the joints.

40 The object of the present invention is to at least partially

REPLACED BY
ART 34 AMDT

overcome the abovementioned drawbacks and/or to create a usable alternative. More particularly, it is an object of the invention to provide a simple device which allows weeds to be removed in an environmentally friendly, more comfortable way as well as quickly and efficiently using a manually operable device which makes use of a simple rotating brush element mounted on a drive unit.

This object is achieved by a rotary device according to claim 1. The rotary device comprises an elongate frame which is provided with a handle and on which is mounted a drive unit, a brush element which is driven by the drive unit, and a guide wheel located at a distance from the brush element. The guide wheel is in this case positioned such that the distance between the centre of the guide wheel and the centre of the frame is at least double the distance between the centre of the frame and the centre of the brush element. This arrangement means that a user advantageously has to exert less force on the frame, and also it is easier to keep the brush element manoeuvred into the joint which is to be cleared. This considerably improves the ease of use as well as the results which can be achieved with the rotary device.

In a particular embodiment, the drive unit is arranged in such a manner that its centre of gravity is located closer to the brush element than to the guide wheel, more particularly more than twice as close. This advantageously ensures that the weight of the drive unit is substantially supported by the brush element and only to a slight extent by the guide wheel. As a result, the brush element presses on the paving joint with maximum pressure derived from the weight of the drive unit and the weight of the frame. Consequently, a user may exert less compressive force on the frame.

Further preferred embodiments are defined in the subclaims.

The invention will be explained in more detail with reference to exemplary embodiments in the appended drawing, in which:

REPLACED BY
ART 34 AMDT

CLAIMS

1. Rotary device for removing weeds from joints in a paved area, comprising:
- 5 - an elongate frame (22) which is provided with a handle (23);
- a drive unit (24) mounted on the frame (22);
- a brush element (25) which is connected to the drive unit (24) in such a manner that it can be driven in rotation about an
- 10 axis of rotation which extends substantially in a direction which is transverse with respect to the frame (22); and
- a guide wheel (28) coupled to the frame (22), the guide wheel (28) and the brush element (25) being provided on either side of the bottom end of the frame (22),
- 15 characterized in that
- the distance (x) between the guide wheel (28) and a centre axis of the frame (22) is at least double the distance (y) between the brush element (25) and the centre axis of the frame (22).
2. Rotary device according to claim 1, in which the centre of
- 20 gravity (z) of the drive unit (24) is positioned closer to the brush element (25) than to the guide wheel (28).
3. Rotary device according to claim 2, in which the distance between the guide wheel (28) and the centre of gravity (z) of the drive unit (24) is at least double the distance between the
- 25 brush element (25) and the centre of gravity (z) of the drive unit (24).
4. Rotary device according to one of the preceding claims, in which the distance (x) between the guide wheel (28) and the centre axis of the frame (22) is greater than 10 centimetres.
- 30 5. Rotary device according to one of the preceding claims, in which the distance (y) between the brush element (25) and the centre axis of the frame (22) is less than 5 centimetres.
6. Rotary device according to one of the preceding claims, in which the output drive shaft of the drive unit (24) is
- 35 positioned substantially at right angles to the axis of rotation of the brush element (25).

REPLACED
ART 34 AMDT

7. Rotary device according to claim 6, in which the output drive shaft of the drive unit (24), as seen in the transverse direction, extends substantially at the centre axis of the frame (22).
- 5 8. Rotary device according to one of the preceding claims, in which a safety guard (30) is provided around part of the brush element (25), which safety guard (30) extends over more than half the outer circumference of the brush element (25).
9. Rotary device according to claim 8, in which the safety
10 guard (30) is provided, on its rear-facing side, with a mud flap (31).
10. Rotary device according to one of the preceding claims, in which the frame (22) is of adjustable length.
11. Rotary device according to one of the preceding claims, in
15 which the distance $(x+y)$ between the guide wheel (28) and the brush element (25) is greater than 15 centimetres.
12. Rotary device according to one of the preceding claims, in which the drive unit (24) is provided in the vicinity of the bottom end of the frame (22), and in particular has its output
20 drive shaft ending at the axis of rotation of the brush element (25).

RECEIVED
ART 34 AMDT